

CLAIMS

What is claimed is:

1. A bread maker having a main body having an oven compartment, a pair of parallel kneading drums spaced apart from each other inside the oven compartment and winding a mixing bag filled with ingredients to make bread thereon, and a drum driver driving the kneading drums to rotate, comprising:

a rotation sensing part sensing rotation of at least one of the kneading drums; and

a controller controlling the drum driver and thereby rotating the at least one kneading drum slowly, at a predetermined position before approaching a turning position of the at least one kneading drum based on the rotated position sensed by the rotation sensing part, by decreasing rotation torque of the at least one kneading drum.

2. The bread maker according to claim 1, wherein when the controller determines that the kneading drum is rotated over the turning position based on the rotated position sensed by the rotation sensing part, the controller controls the drum driver to drive the kneading drum to stop at a predetermined position before approaching a mixing bag breakaway position, at which the mixing bag is separated from the kneading drum.

3. A method of controlling a bread maker having a main body having an oven compartment, a pair of kneading drums spaced apart from each other inside the oven compartment and winding a mixing bag filled with ingredients to make bread thereon, and a drum driver driving the kneading drums to rotate, comprising:

sensing rotation of at least one of the kneading drums; and

controlling the drum driver and thereby rotating the at least one kneading drum slowly, at a predetermined position before approaching a turning position of the at least one kneading drum based on the rotated position sensed by the rotation sensing part, by decreasing rotation torque of the at least one kneading drum.

4. The method according to claim 3, further comprising controlling the drum driver to drive the kneading drum to stop at a predetermined position before approaching a mixing bag breakaway position, at which the mixing bag is separated from the kneading drum, when the kneading drum is determined to be rotated over the turning position based on the rotated position sensed by the rotation sensing part.

5. A bread maker to make bread from ingredients contained in a mixing bag, comprising:

an oven compartment in which a bread making process is performed, including a kneading drum, having a holder which holds the mixing bag, rotating and thereby knead the bread;

a drum driver transmitting a rotational force to the kneading drum;

a rotation sensing part sensing rotation of the kneading drum; and

a controller controlling the drum driver and thereby rotating the kneading drum at a decreased rate of rotation, when the kneading drum is determined to be at a predetermined position, based on the rotated position sensed by the rotation sensing part, before approaching a turning position, by decreasing a rotation torque of the kneading drum.

6. The bread maker according to claim 5, wherein the kneading drum of the oven compartment is plural in number and located in upper and lower portions of the oven compartment, respectively.

7. The bread maker according to claim 6, wherein the upper and lower kneading drums are spaced apart from each other and are provided in parallel.

8. The bread maker according to claim 7, further comprising a baking tray in which kneaded dough is baked, wherein the baking tray comprises

a first tray and a second tray, each tray having an L-shaped symmetrical section facing the other thereby forming a box with an open top.

9. The bread maker according to claim 8, further comprising a pair of dough blocking members between the upper kneading drum and the baking tray to prevent ingredients from moving outside the baking tray.

10. The bread maker according to claim 5, further comprising heaters to heat the ingredients in the mixing bag.

11. The bread maker according to claim 5, further comprising first and second component compartments, wherein the drum driver is located in the first compartment and a bar code scanner is located in the second compartment.

12. The bread maker according to claim 11, wherein the bar code scanner reads a bar code on the mixing bag.

13. The bread maker according to claim 5, wherein the rotation sensing part comprises:

- a disk part rotating in accordance with a rotation of the kneading drum; and
- a rotation sensor outputting a signal by sensing the rotation of the disk part.

14. The bread maker according to claim 13, wherein the disk part comprises:

- a first disk sensing one rotation of the kneading drum; and
- a second disk sensing less than one rotation of the kneading drum.

15. The bread maker according to claim 14, wherein the first disk is a circular plate formed with a projection radially extended therefrom to a rotation sensor sensing area.

16. The bread maker according to claim 15, wherein the second disk is a circular plate having a plurality of slots extending therefrom to the rotation sensor sensing area along the circumference thereof at regular intervals.

17. The bread maker according to claim 14, wherein the rotation sensor comprises:

- a first disk sensor sensing the first disk; and
- a second disk sensor sensing the second disk.

18. The bread maker according to claim 17, wherein the first disk sensor and the second disk sensor comprise:

light emitting parts emitting a sensing signal, which penetrates the first and second disks, respectively; and

light receiving parts facing the light emitting parts across the first and second disks, respectively, and receiving the light emitting from the light emitting parts.

19. A method of controlling a bread maker in which a bread making process is carried out via a heater to heat ingredients contained in a mixing bag to be wound onto a kneading drum, comprising:

sensing a rotation position of the kneading drum;

determining whether the kneading drum is in a predetermined rotation position before approaching a turning position;

decreasing rotation torque of the kneading drum if the kneading drum is in the predetermined rotation position;

determining if the kneading drum is stopped at the turning position; and

braking a motor before the kneading drum approaches a mixing bag breakaway position, if the kneading drum is not stopped at the turning position.

20. The method according to claim 19, further comprising winding the mixing bag onto the kneading drum.

21. The method according to claim 20, wherein the winding comprises reading a bar code on the mixing bag to determine the bread making process to be carried out.

22. The method according to claim 21, further comprising controlling the kneading drum and the heater to knead and heat the ingredients in the mixing bag.

23. The method according to claim 19, wherein the initial determining operation comprises transmitted pulse signals from a rotation sensor to a controller.

24. The method according to claim 23, further comprising reversing a rotating direction of the kneading drum based upon the transmitted pulse signals.

25. The method according to claim 24, further comprising controlling an on/off switching element to lower a pulse width modulation (PWM) duty of a motor when the kneading drum is in the predetermined position before approaching a turning position.